

## WHAT IS CLAIMED IS:

1. A method of producing a multiple band-type antenna,  
comprising:

5 a first step in which a connector is formed by forming  
threads on an outer surface of a cylindrical metallic rod  
having a certain length and a certain diameter;

a second step in which a connection member is formed in  
such a manner that a certain space has an impedance  
transformer at a portion near a processed portion formed as  
10 a center passes through and near the connector;

a third step in which a spiral first helical antenna is  
formed from an end of the connection member distanced by a  
certain interval from the space formed in the connection  
member;

15 a fourth step in which a dielectric is provided to  
surround the connection member in such a manner that said  
dielectric is exposed from the portions that the connection  
member that is inserted into an inner side of the first  
helical antenna formed in the third step, has a passed-  
20 through center and a certain space, and the first helical  
antenna are getting started to be formed; and

a fifth step in which a covering member is insert-molded on an outer surface of the first helical antenna.

2. The method of claim 1, wherein in a process that  
5 the third step is performed after the second step, said second step is performed after the third step is performed.

3. The method of claim 1, further comprising a step  
in which a second helical antenna is installed at an inner  
10 side of the dielectric formed in the fourth step before the covering member is insert-molded.

4. The method of claim 3, further comprising a step  
in which a whip antenna passing through a center is  
15 installed after the second helical antenna is installed, and the covering member is insert-molded.

5. The method of claim 3, wherein a dielectric is  
coated on an outer surface of the second helical antenna  
20 installed at an inner side of the first helical antenna.

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6. The method of claim 1, further comprising a step in which a whip antenna is installed at an assembly formed after the covering member is insert-molded.

5 7. The method of claim 6, further comprising a third helical antenna installed at an end of one side of the whip antenna.

8. The method of claim 1, wherein said covering member formed by the insert molding method is formed in a shape of a cap.

9. The method of claim 1, wherein an available frequency range is adjusted by adjusting the size of a space.

10. A multiple bands type antenna, comprising:  
a connector having threads on its outer surface;  
a circular plate formed on an upper surface of the  
20 connector;

a connection member that is formed on an upper surface

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of the circular plate and has a space forming an impedance transformer;

5 a first helical antenna formed at an end of the connection member wherein said first helical antenna is integrally formed based on a cutting process of a cylindrical metallic rod;

a dielectric having a center passing an inner side of the first helical antenna and an outer side of the connection member; and

10 a covering member insert-molded on an outer surface of the first helical antenna.

11. The antenna of claim 10, further comprising a second helical antenna that has one end connected with the circular plate and a free end formed at the other end of the same and is installed at an inner side of the dielectric.

12. The antenna of claim 11, further comprising a whip antenna that passes through a center portion after the second helical antenna is installed, and the covering member is insert-molded.

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13. The antenna of claim 10, further comprising a whip antenna that passes through a center after the covering member is insert-molded.

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14. The antenna of claim 12, further comprising a third helical antenna formed at an end of one side of the whip antenna.

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15. The antenna of claim 10, wherein a coating layer formed of a dielectric is formed on an outer surface of the second helical antenna installed at an inner side of the first helical antenna.

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16. The antenna of claim 10, wherein said first helical antenna has a cross section of a plate shape.

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